



STUDY OF JUNIOR SOFTWARE ENGINEERS' AWARENESS ON ABSTRACTION AND REFLECTIVE PRACTISE AS TECHNIQUES OF PROGRAM COMPREHENSION

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Abstract

The local software industry elapses a period of steady growth. The key factor which contributes for the development of the software industry is the expansion of the outsourcing opportunities received from developed countries. To sustain this steady growth the quality of exported software should be constantly maintained. The main factor behind the quality of software is the skill level of the software engineers. Specially, the junior software engineers' contribution towards the quality of software is high, because, the junior engineers represent a larger segment of the local software engineering community.

Empirically, abstract thinking and reflective practise has been identified by international researchers as two important factors, which contribute on the development of the skill level of the software engineers. Further, they consider program comprehension as a core function of junior software engineer. Therefore, it is an important requirement to identify the level of awareness on abstraction and reflective practise as techniques of program comprehension by junior software engineers.

Due to the complexness and the broadness of the population a stepwise approach is more suitable in the area of the study. Therefore, the research focuses Q11 the last two batches of graduates from the department of Computer Science and Engineering, University of Moratuwa. Nevertheless, the methodology and the findings of this research intend to broaden the local academic information pool while enlightening the future research work.

Most importantly, the study reveals that the level of adoption of abstraction and reflective practise as a technique of program comprehension is very high within the concentrated population. Therefore, the CSE software engineering syllabus could be considered as a benchmark in the local context. Nevertheless, further findings suggest few minor improvements to the CSE syllabus worth satisfying by additional



subject areas. Lastly, accepting the research findings as a baseline, it recommends the local universities to offer different subjects based on students' cognitive development to increase the level of abstraction and reflective practise on software engineering. This requirement forces the universities to eliminate any preset syllabuses